



Town of Merrimack, New Hampshire

6 Baboosic Lake Rd · Merrimack, NH 03054 · www.merrimacknh.gov

August 17, 2016

REQUEST FOR BID Natural Gas Direct Fired Make Up Air Units

Bids will be received by the Town of Merrimack ***until 2:00 PM on Friday, September 2, 2016*** to provide and install two (2) natural gas direct fires make up air units and low leakage control dampers to the Town's Waste Water Treatment Facility, in accordance with the enclosed detailed bid specifications and following conditions:

The bid shall include:

- Installation, start up and training
- Removal of existing make up air units
- Existing duct work or replacement
- Delivered to and installed at the Town's Waste Water Treatment Facility

Time and effort spent for bid preparation is the responsibility of the bidder. The act of submitting a bid is considered to be full acknowledgement that the bidder has inspected the sites and is familiar with the conditions. A walk through is scheduled for Monday, August 22, 2016 at 9:00am, 36 Mast Rd, Merrimack, NH .

The bid shall be submitted on the Bid Form furnished herewith and shall exclude state and federal taxes not applicable to municipalities. The bid price shall include delivery and be quoted F.O.B. Town of Merrimack, Waste Water Treatment Facility, 36 Mast Rd, Merrimack, NH. The time required for delivery must be indicated on the Bid Form and be guaranteed.

The Town reserves the right to reject any or all bids, to waive irregularities in the bids, and to accept the bid which best serves the interest of the Town.

Bids shall be faxed to the Town of Merrimack Finance Department at (603) 424-0516 or delivered to the Finance Department located at 6 Baboosic Lake Rd, Merrimack, NH by the date and time specified above.

The Town of Merrimack's Purchasing Policy is available on the Town's website:
<http://www.merrimacknh.gov/finance-department/pages/bid-opportunities>;
a copy may be obtained by contacting the Purchasing Agent.

For additional information call Xenia Simpson, Purchasing Agent, at
xsimpson@merrimacknh.gov or (603) 424-7075



TOWN OF MERRIMACK, NEW HAMPSHIRE

FINANCE DEPARTMENT

6 Baboosic Lake Road
Merrimack, NH 03054

Tel: 603-424-7075

Fax: 603-424-0516

SPECIFICATIONS

NATURAL GAS DIRECT FIRED MAKE UP AIR UNITS AND LOW LEAKAGE CONTROL DAMPERS-INSTALLED

GENERAL: This project replaces two (2) existing gas fired Make Up Air Units (MAU) to heat the infeed area of the Town's compost facility. The bid includes installation, start up, and training plus removal of existing make up air units. The successful bidder must match up to existing duct work or replace as needed for the unit being bid. Included in the bid is a low leakage electric control damper, installed. **The damper and MAU must be of the same manufacture and work together as one unit.** Examination of existing units, controls, disconnects, etc. can be viewed at the compost facility. The intent is to reuse existing power supply, modified by contractor as needed. The existing units sit on a concrete pad that can be utilized or modified as needed. The bid specifications are based on Greenheck Model VSU-118-H30. **This specification is to be used as a guide for bidders to show the type of equipment desired only and is not intended to limit other manufactures equipment from being bid.** Please contact Lee Vogel, Maintenance Manager, 603-420-1622 (lvogel@merrimacknh.gov) or Jim Taylor, 603-4201620 (jtaylor@merrimacknh.gov) with bid questions.

1) Unit Overview:

- a) Air Flow: 10,000 cfm per unit
- b) Heating: Direct Gas
- c) Cooling: No Cooling
- d) Electrical: 480V/3 ph. **NOTE:** There is a 3ph 600V 30Amp NEMA 4X SS fused disconnect existing. This should be replaced in kind. Wiring should be reused unless otherwise rating is different than existing.

2) Features:

- a) Removable access panels
- b) Galvanized steel blower and bearing supports
- c) Forward curved steel blower and motor
- d) Fan mounting on neoprene vibration isolators
- e) Fan shaft shall be mounted in permanently lubricated ball bearings or pillow block bearings
- f) Factory mounted disconnect
- g) Air Flow: Outside air only
- h) Filter section: Aluminum housing 20X25X2 or standard for the model submitted
- i) Air Intake Position: Bottom
- j) Access through panel to controls
- k) 1 NO/1 NC relay on supply starter
- l) Remote Control Panel: Yes
- m) Warranty: **1 year standard manufactures warranty**

Performance and Specifications

The following table lists expected performance and specifications. These specifications are intended to be indicative of expected performance but may differ depending on model proposed:

Description/Arrangement

Model	Qty	Unit Weight (lb)	Discharge Position	Air Flow Arrangement	Unit Arrangement
VSU-118-H30	1	1,822	Horizontal	Outdoor Air Only	Vertical

Design Conditions

Elevation (ft.)	Summer DB (F)	Summer WB (F)	Winter DB (F)
233	91.2	75.8	1.0

Air Performance

Type	Volume (CFM)	External SP (in. wg)	Total SP (in. wg)	RPM	Operating hp (per motor)	Motor Quantity/HP (per motor)	Supply Fan Type/Quantity
Supply	10,000	0.25	0.935	794	5.95	Qty 1/7-1/2	Forward Curve/Qty (1)

Unit Pressure Drop (in. wg)

Air Stream	Weatherhood	Damper Section	Filter Section	Cooling Section	Heating Section
Supply	0	0	0.06	0	0.625

Sound Performance in Accordance with AMCA

Fan	Sound Power by Octave Band								Lwa	dBA	Sones
	62.5	125	250	500	1000	2000	4000	8000			
Supply	99	88	86	85	83	83	79	74	89	78	32

Electrical/Motor Specifications

V/C/P	Unit MCA (amps)	Unit MOP (amps)	Enclosure	Supply Motor RPM	Supply Efficiency
460/60/3	14.6	25	ODP	1725	Premium

Heating/Cooling Specifications

Heating Type	Gas Type	In (MBH)	Output (MBH)	LAT (F)	Temp. Rise (F)
Direct Gas	Natural	1,044.8	961.2	90.0	89.0

HEATING PERFORMANCE**Direct Gas Unit:**

- 1) 92% efficient
- 2) Cast Aluminum burners with stainless steel mixing plates
- 3) Burner capable of 30:1 turndown
- 4) Maxitrol electronic modulating gas valve
- 5) Agency Approval: ETL and IRI
- 6) Building Gas Pressure: 1/2 psi
- 7) Temperature Control: Discharge
- 8) Low flame adjustable temperature control based on ambient air temperature
- 9) Units Rated Gas Pressure: 1/2 psi
- 10) Ignition Control: electronic pilot
- 11) Flame Sensing: Flame Rod
- 12) Visual Indication: Yes
- 13) External Gas Regulator: No
- 14) Minimum Gas Pressure for Maximum Fire: 14 in. WC

LOW LEAKAGE 3V CONTROL DAMPER (GREENHECK MODEL SEVCD-23 OR EQUAL)

GENERAL: Severe environment 316SS low leakage control damper. Leakage rating should be 3 cfm/cubic foot @ 1 in. wg compliant with IECC.

Ratings:

Pressure: Up to 5.0 in. wg pressure differential

Velocity: 2000-3000 fpm

Leakage: Class 1A @ 1 in. wg

Class 1 @ up to 5 in. wg

Temperature: up to 250 degrees F (121C)

Construction parameters:

Supply power: From Make Up Air Unit

Frame Material: 316 SS

Frame Material Thickness: 16 ga.

Frame Type: 5in X 1in hat channel

Blade Action: Opposed

Blade Material: 316 SS

Blade Material Thickness: 16 ga.

Blade Type: 3V

Linkage: 316 SS

Axle Bearings: 316 SS

Axle Material: 316 SS

Blade Seals: TPE or Silicone

Jamb Seals: 316 SS

Size: Current damper is 36"X48"-**to be field determined by manufacture or manufactures representative**



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Bid for Natural Gas Direct Fired Make up Air Units Bid Form

Due by 2:00PM on Friday, September 2, 2016

Make up aire units according to the
Town's bid specifications *including installation*

\$_____

Mfg & Model #_____

Delivery will be made within _____ calendar days after receipt of the Town's related purchase order.

The above bid is provided in accordance with the Town's bid invitation dated August 17, 2016, except as indicated below:

Bidder:_____

Street Address:_____

City, State, Zip Code: _____

Phone No:_____ Fax No: _____

E-Mail:_____

Authorized Signature:_____

Printed Name: _____ Date:_____